

FIG. 1A

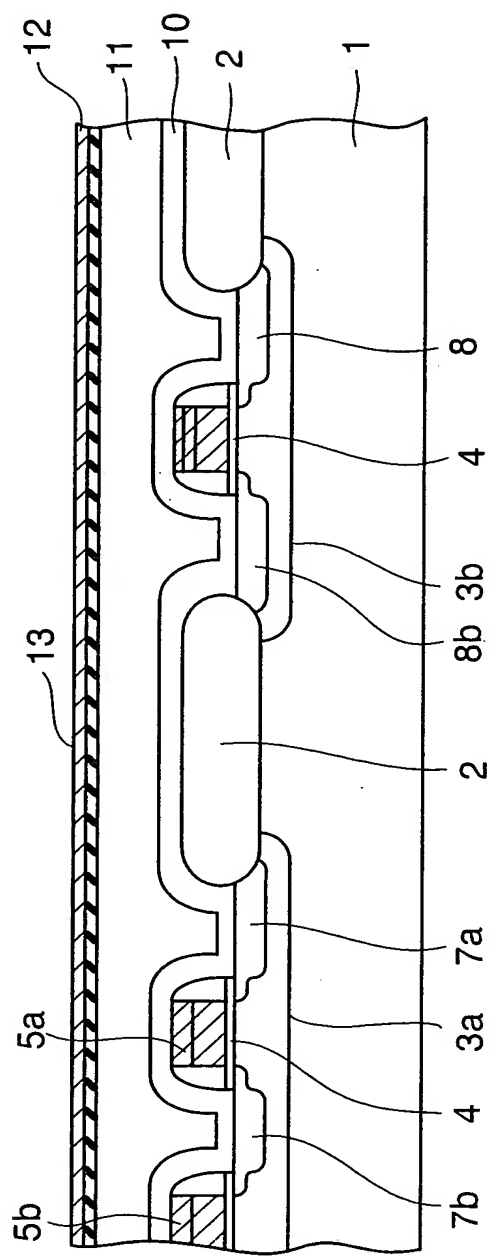


FIG. 1B

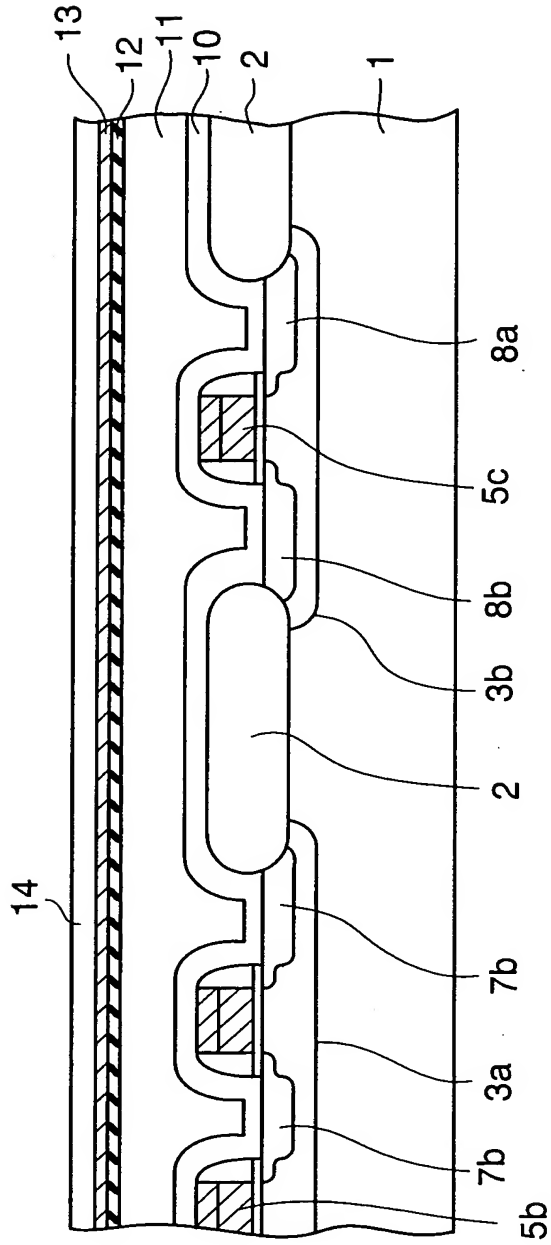


FIG. 1C

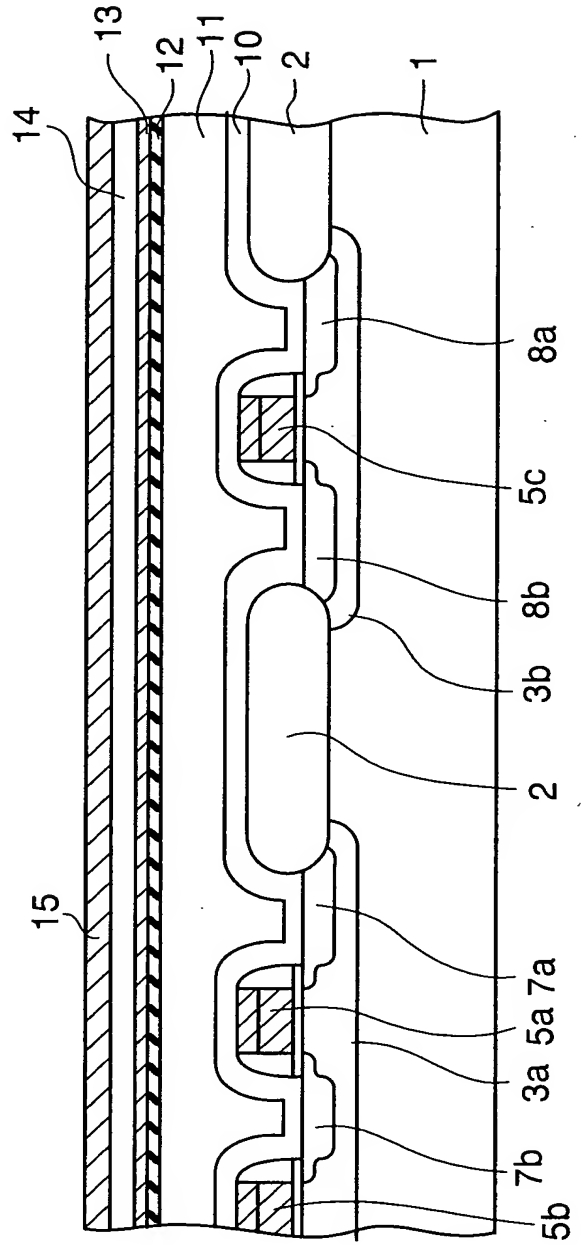


FIG. 1D

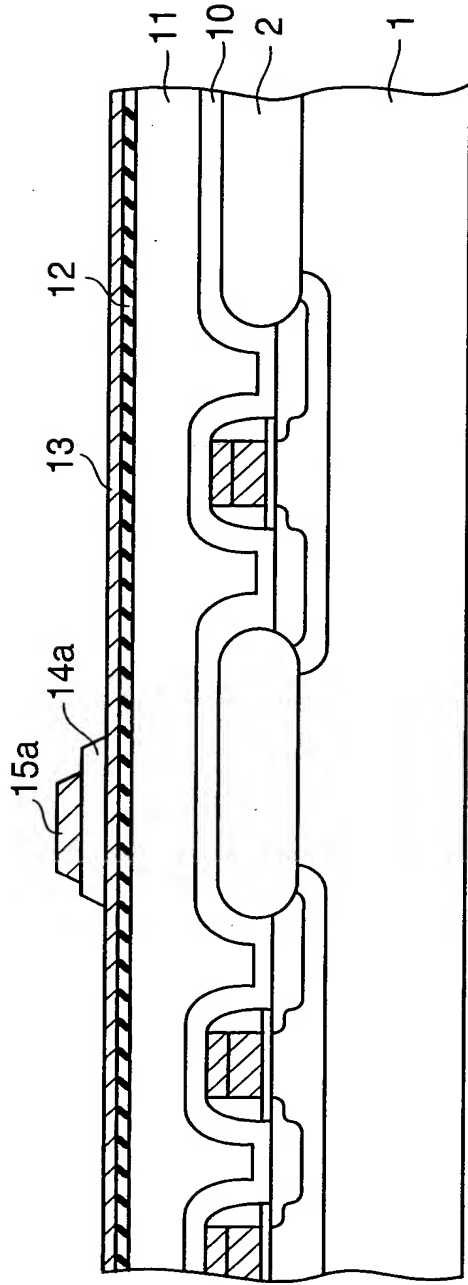


FIG. 1E

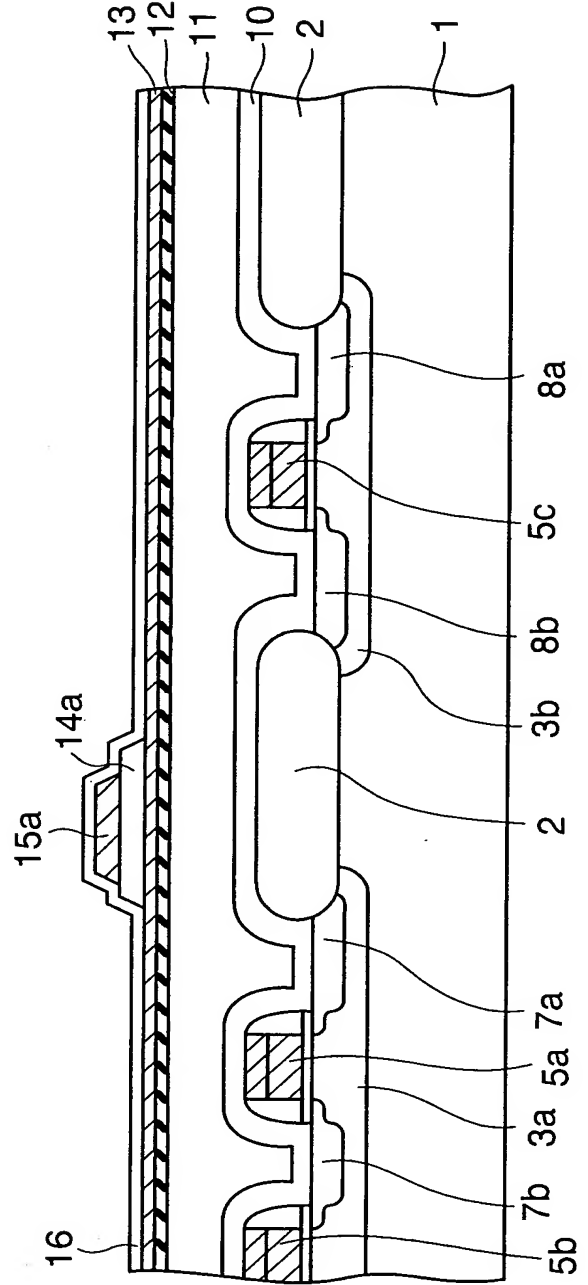


FIG. 1F

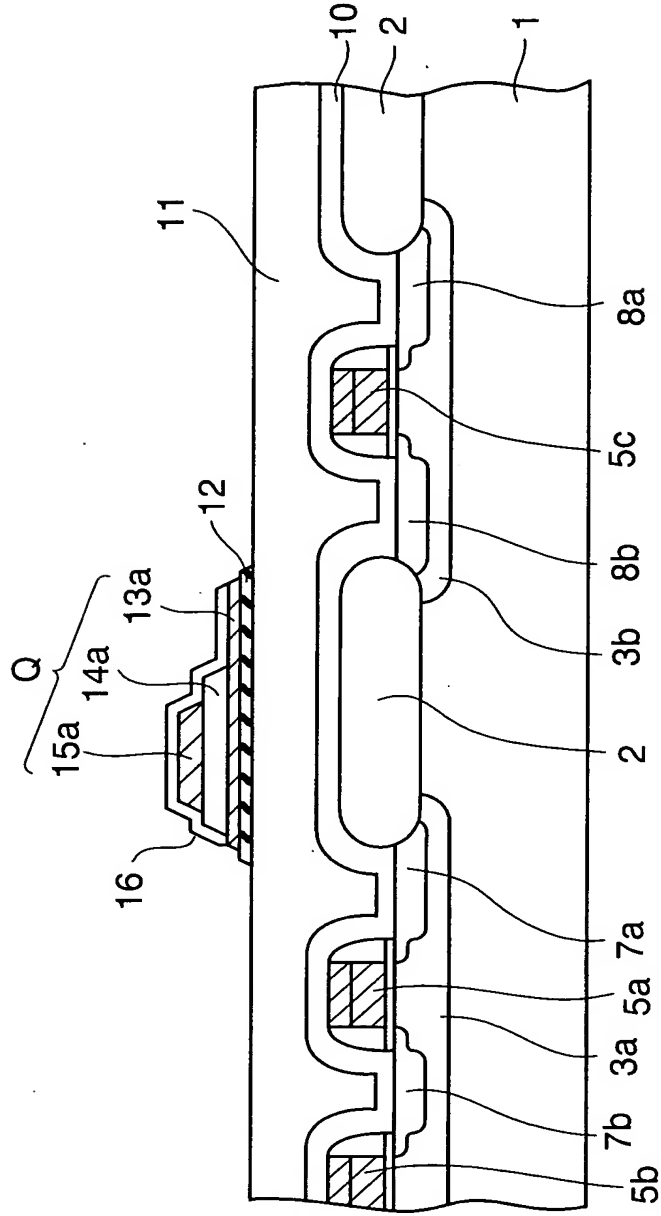


FIG. 1G

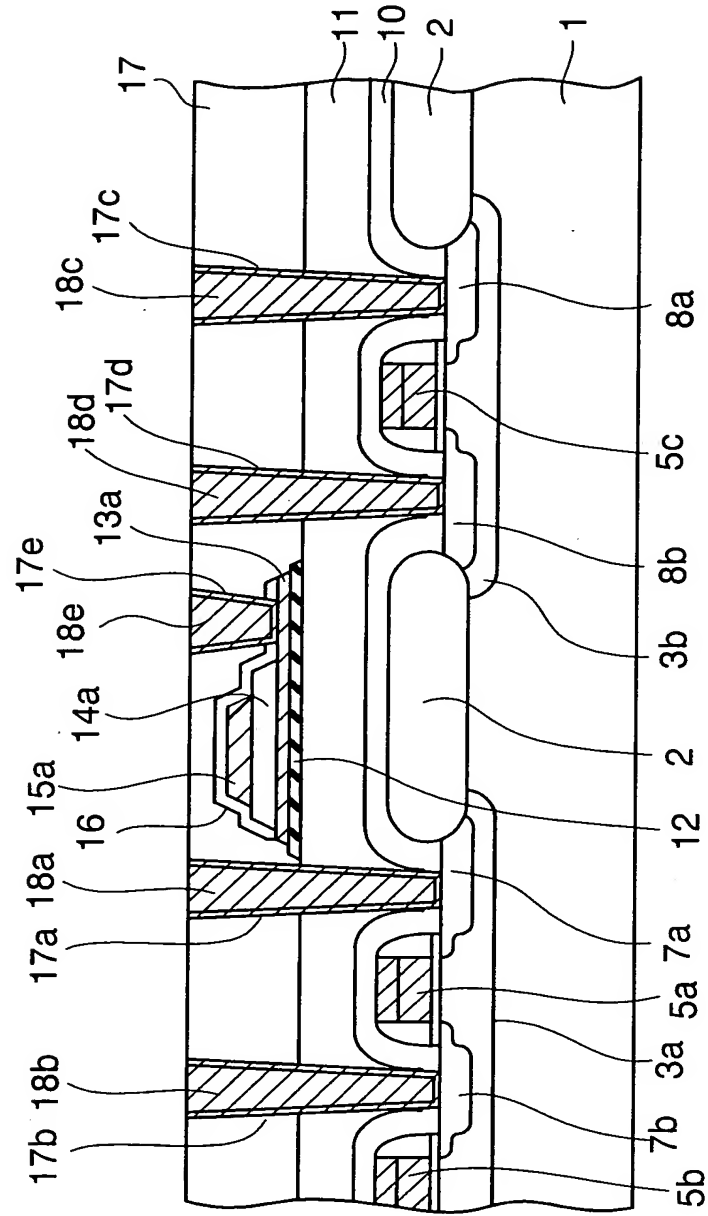


FIG. 1H

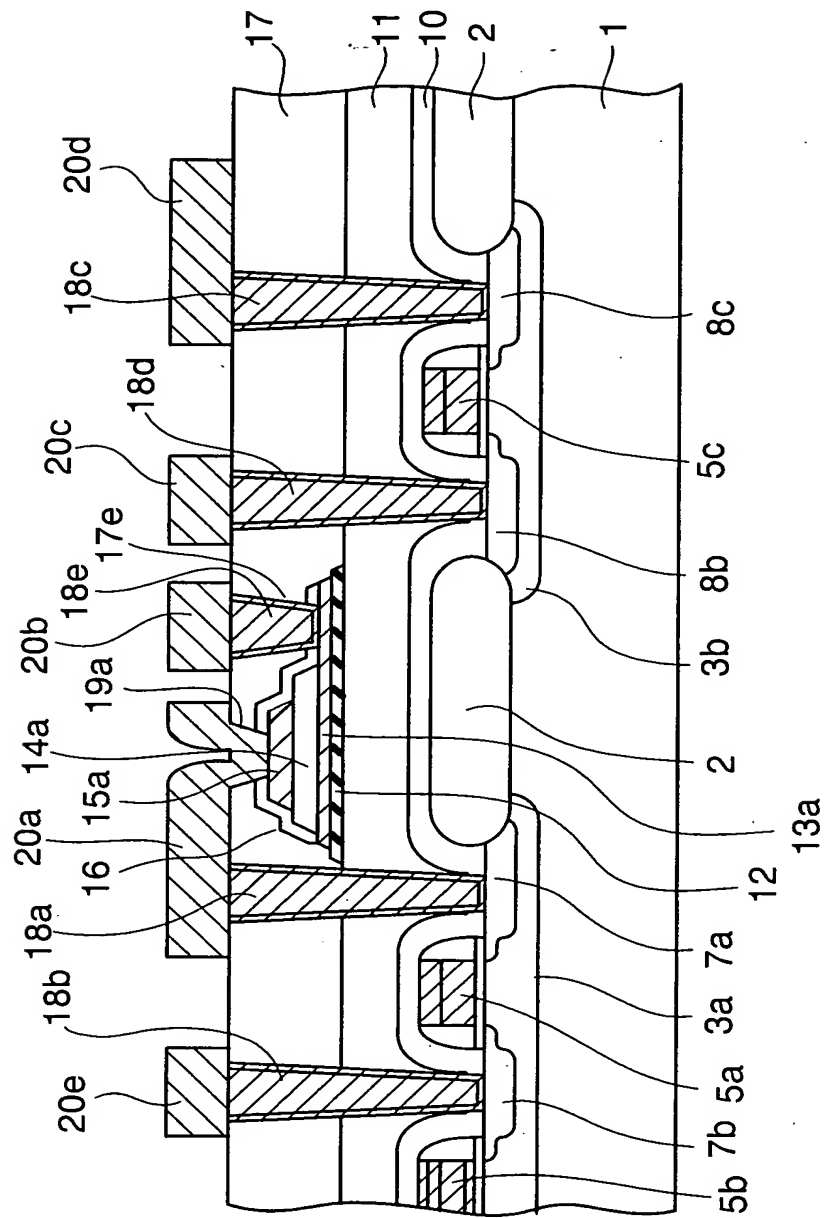


FIG. 11

FIG. 2

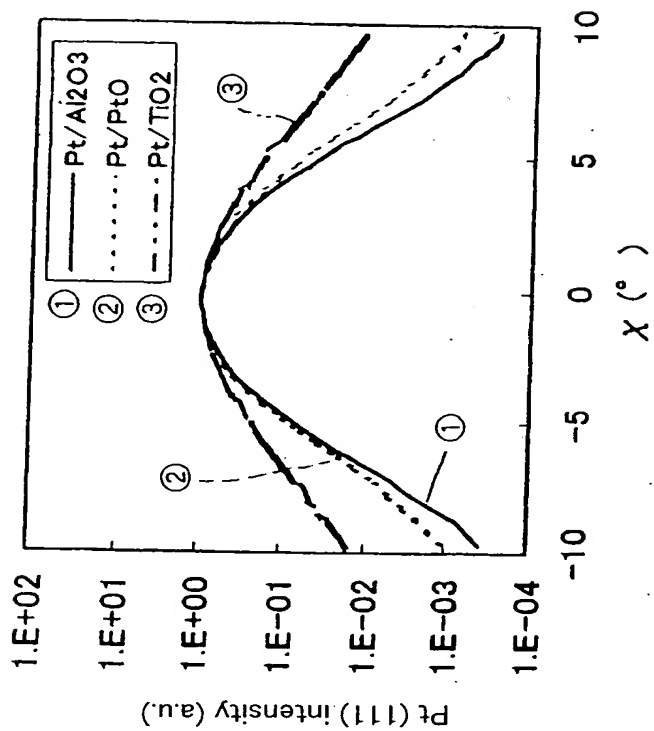


FIG. 3

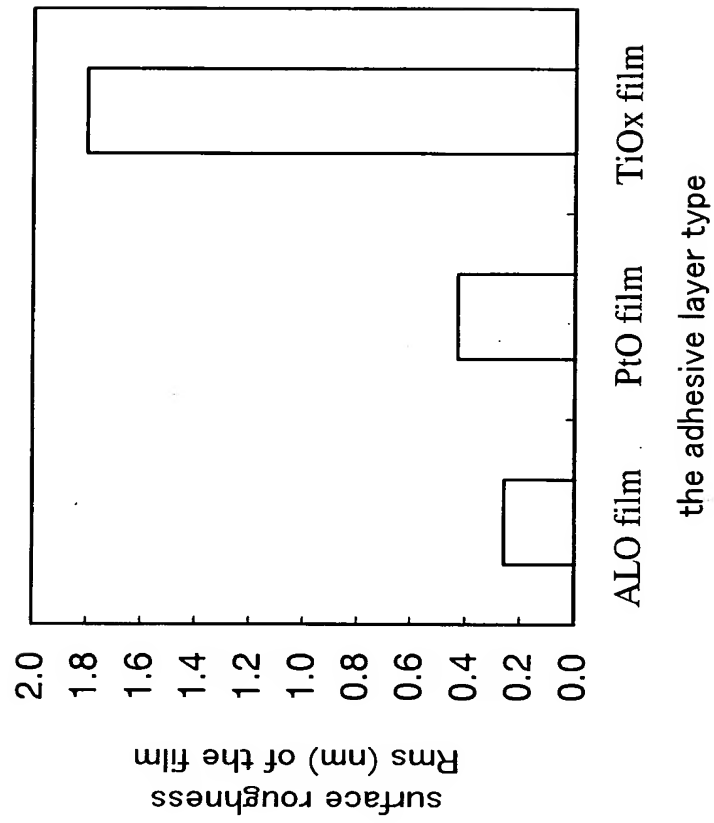




FIG. 4

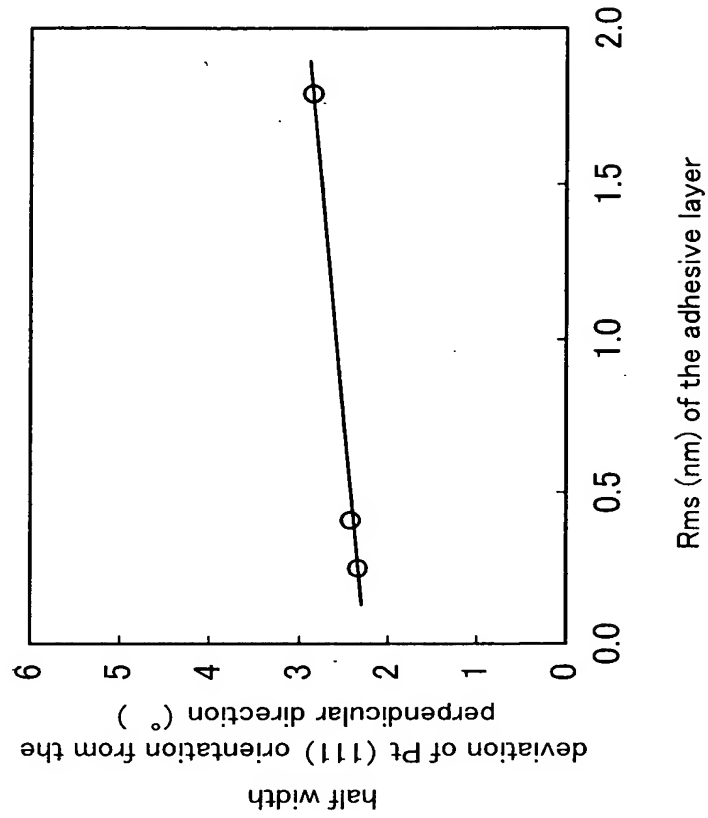


FIG. 5

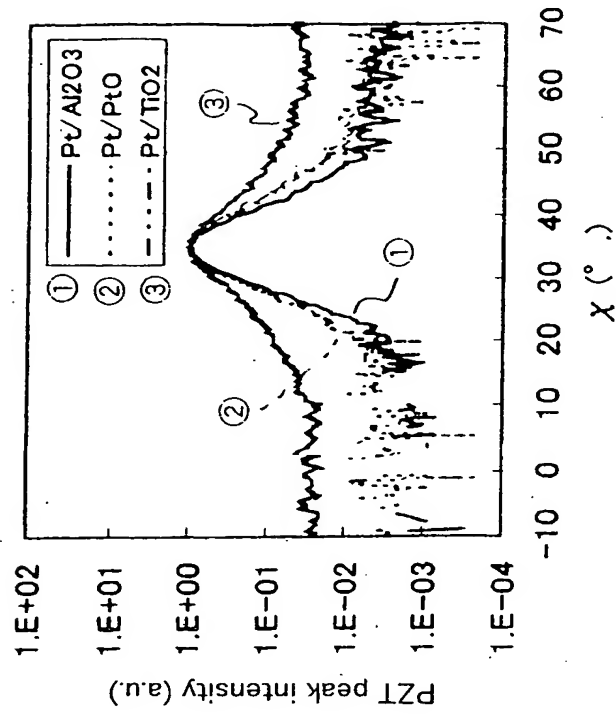


FIG. 6

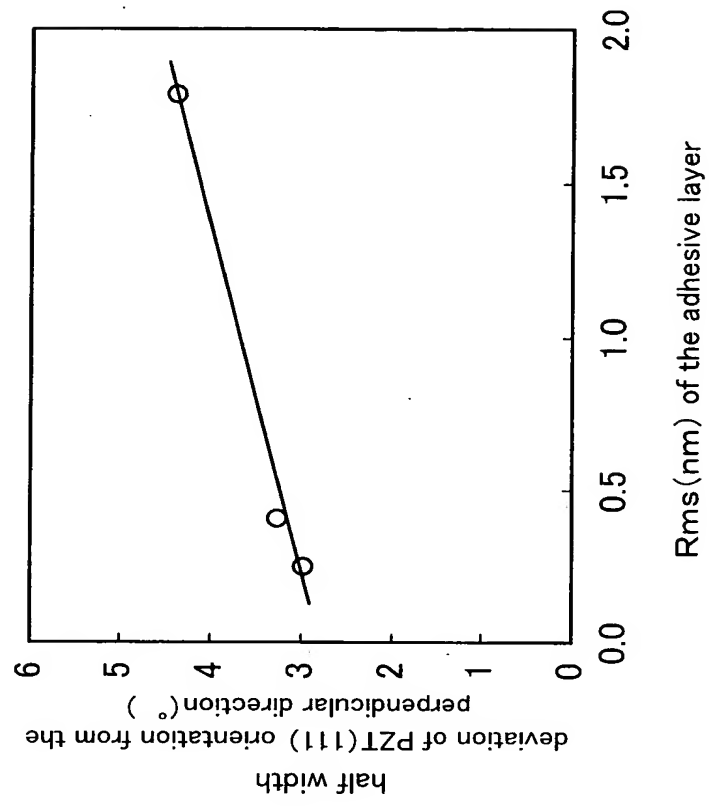


FIG. 7

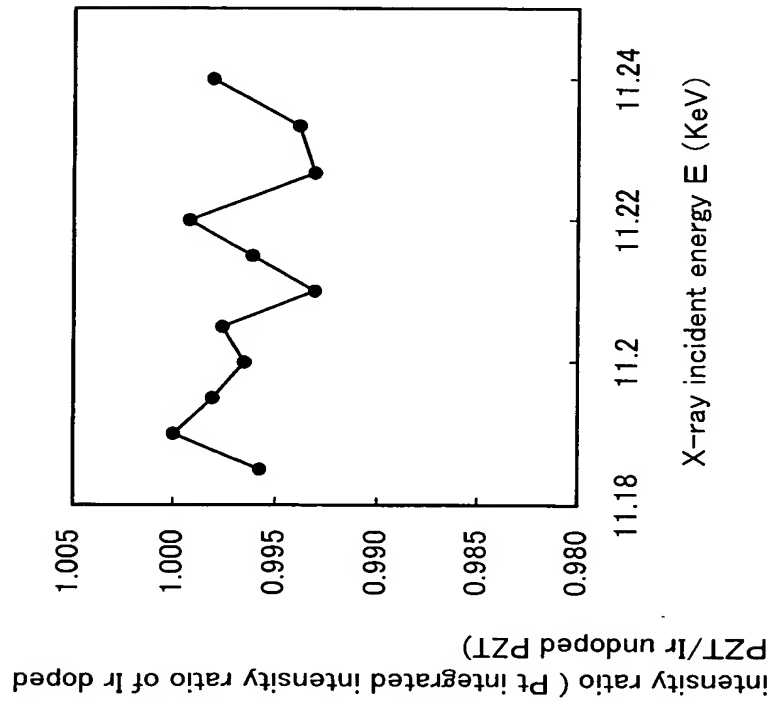


FIG. 8

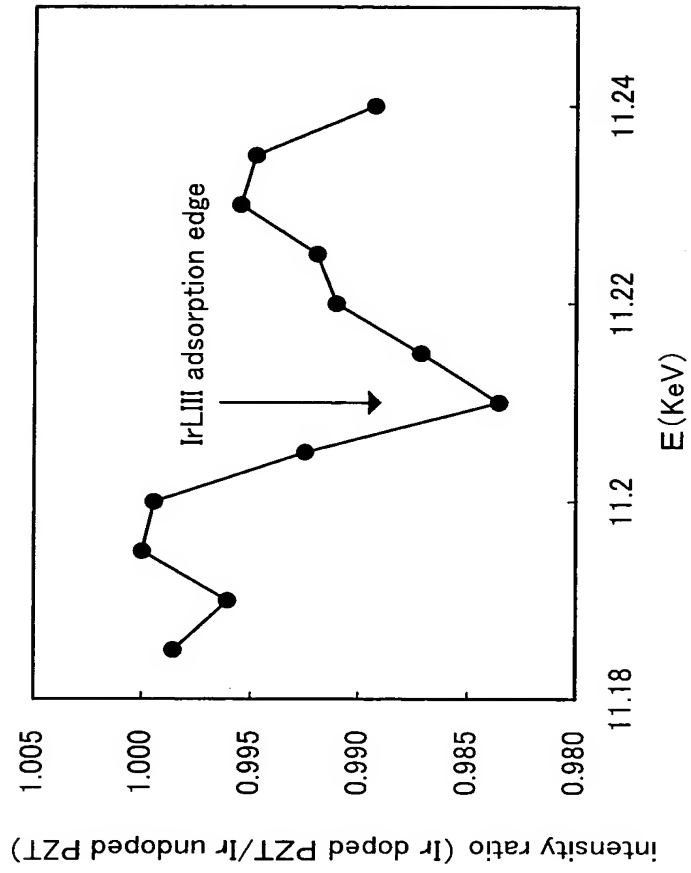
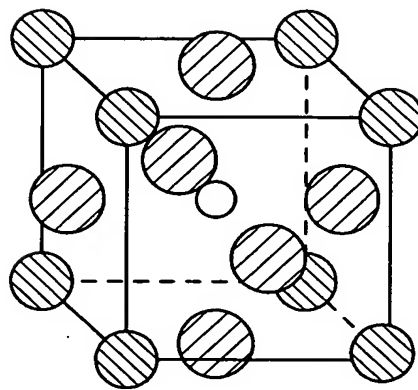


FIG. 9



crystal lattice of  $ABO_3$  structure material according to the first embodiment of the present invention

A site atom



•Bi, Pb, Ba, Sr, Ca, Na, K, Ir, rare earth element

B site atom



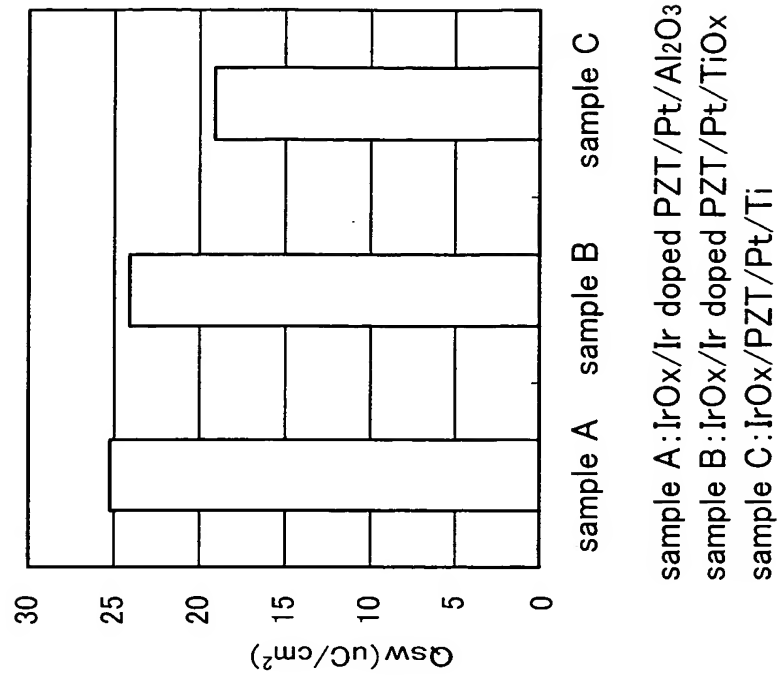
•Ti, Zr, Nb, Ta, W, Mn, Fe, Co, Cr, Ir



O atom

The Ir atom is contained in at least one of the A site atom and the B site atom.

FIG. 10



Rms of Al<sub>2</sub>O<sub>3</sub> = 0.23nm  
 Rms of TiOx = 1.8nm  
 Rms of Ti = 0.76nm

FIG. 11

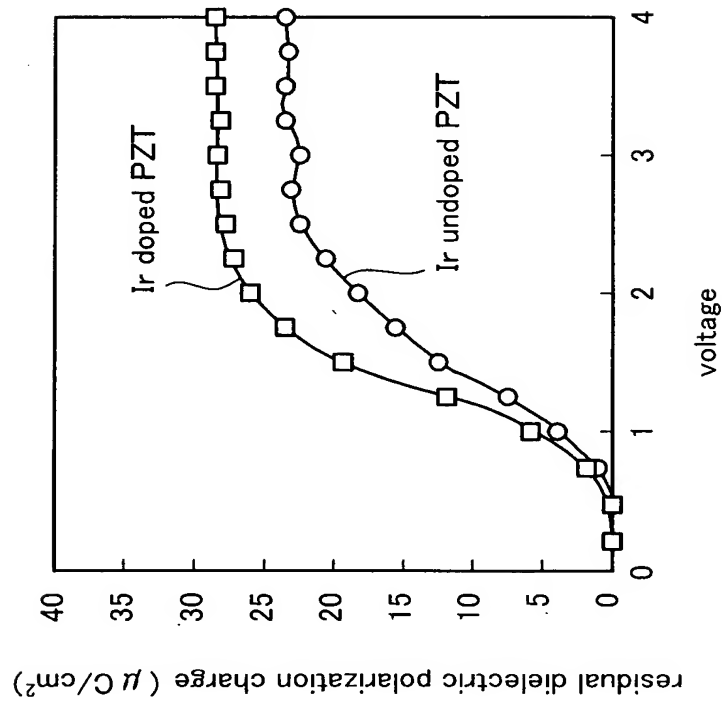


FIG. 12

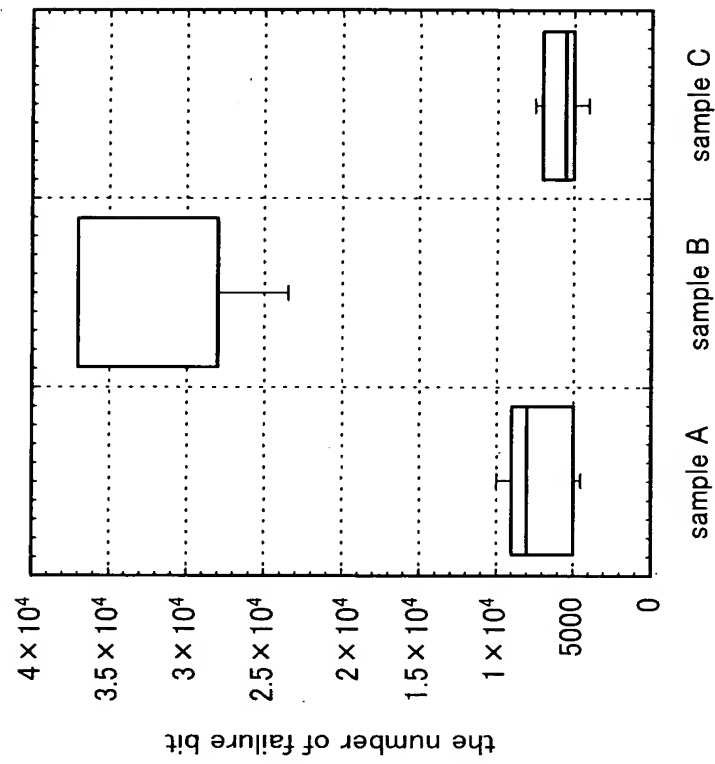


FIG. 13

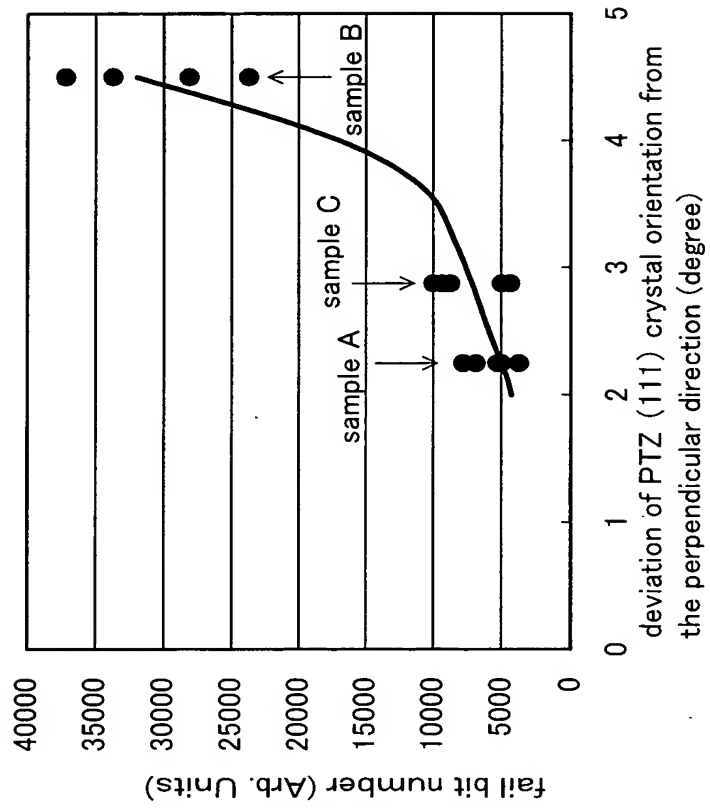


FIG. 14

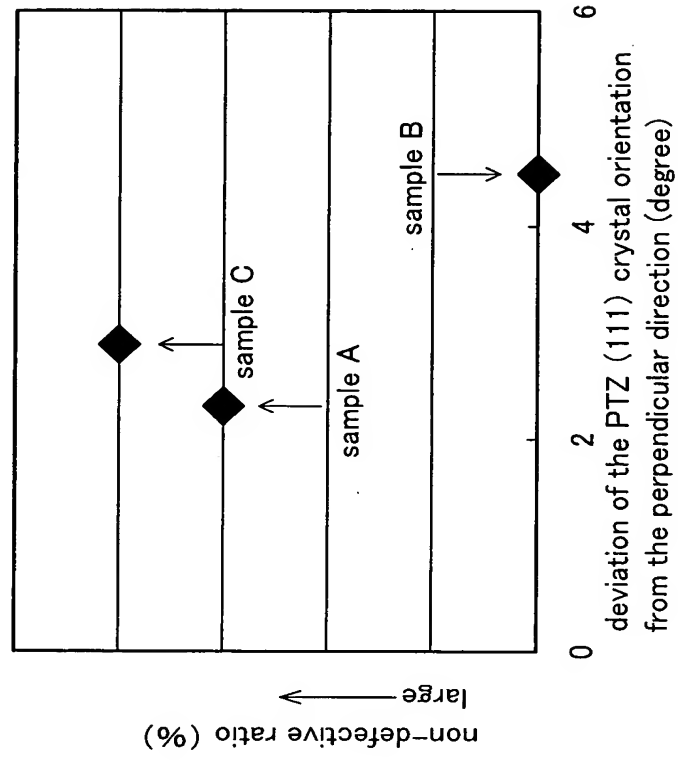


FIG. 15

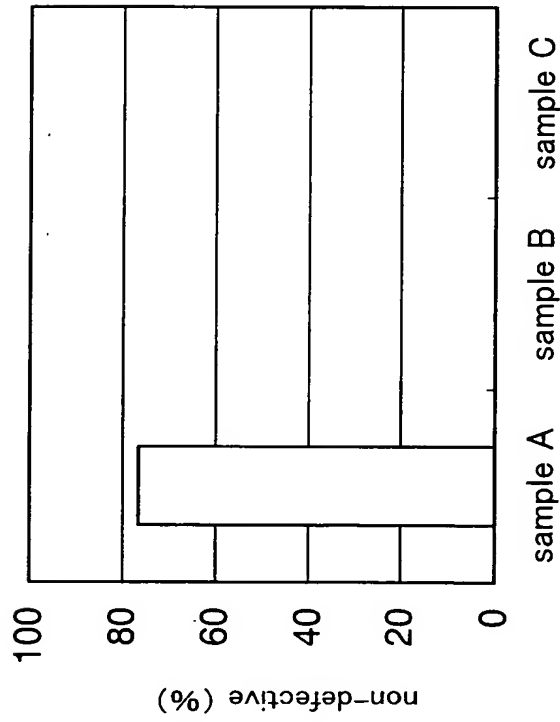




FIG. 16

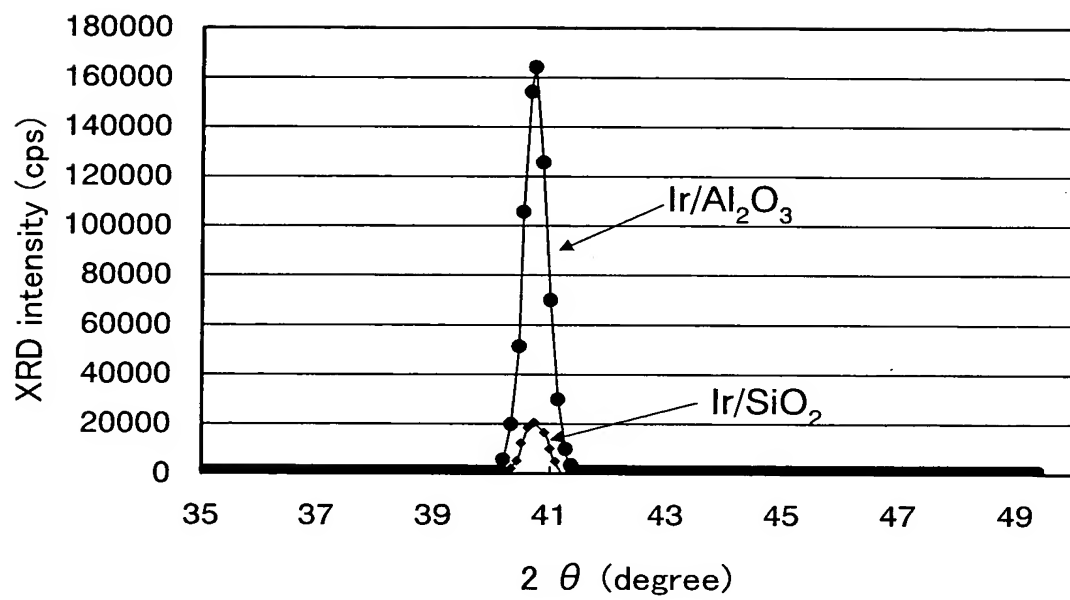


FIG. 17

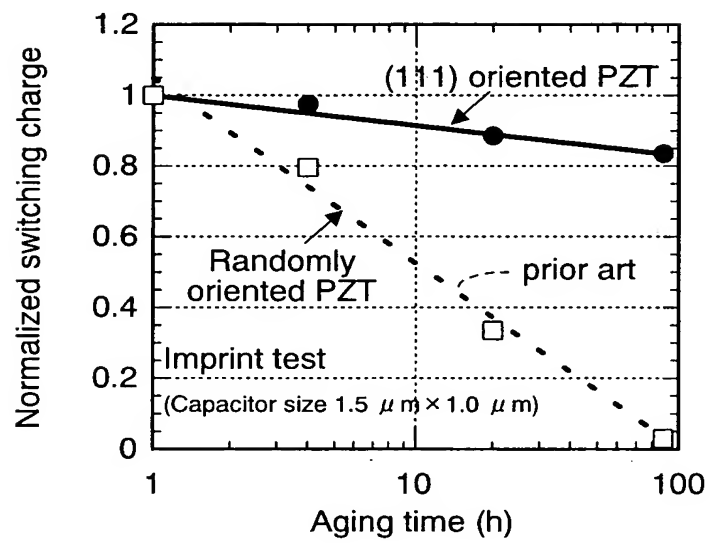


FIG. 18A

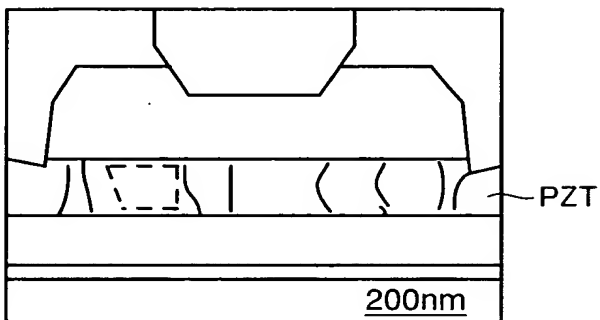


FIG. 18B

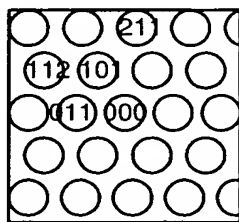
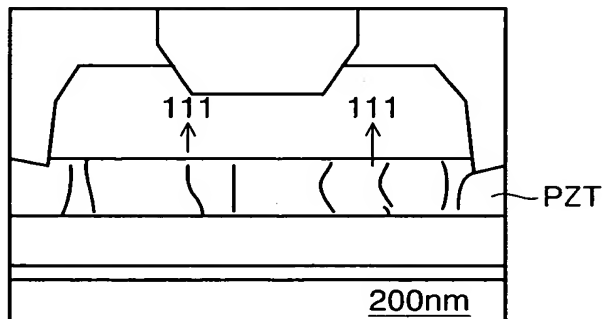


FIG. 19



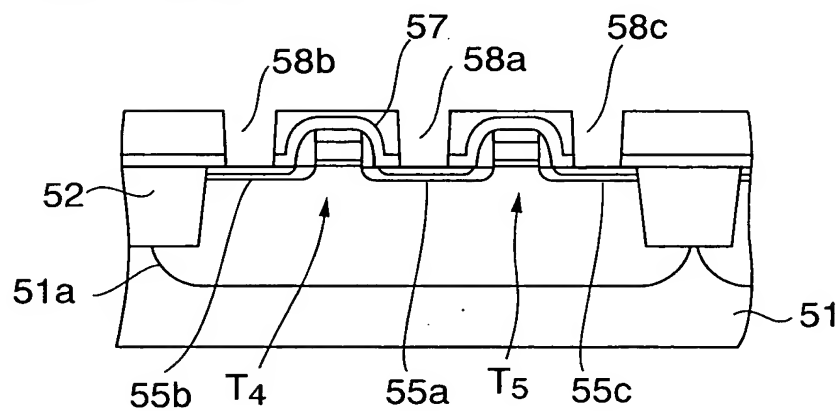


FIG. 20C

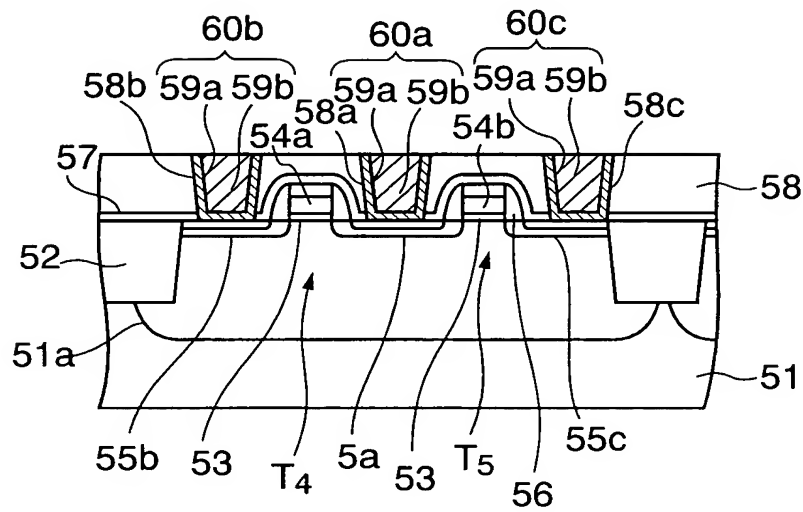


FIG. 20D

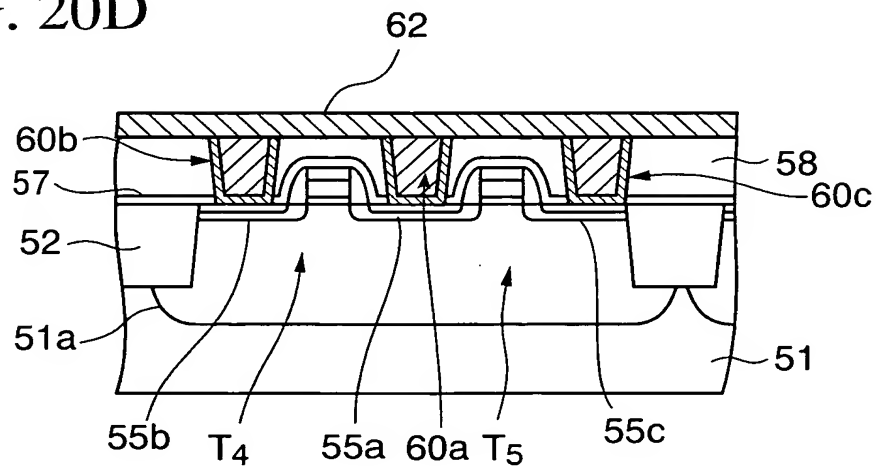


FIG. 20E

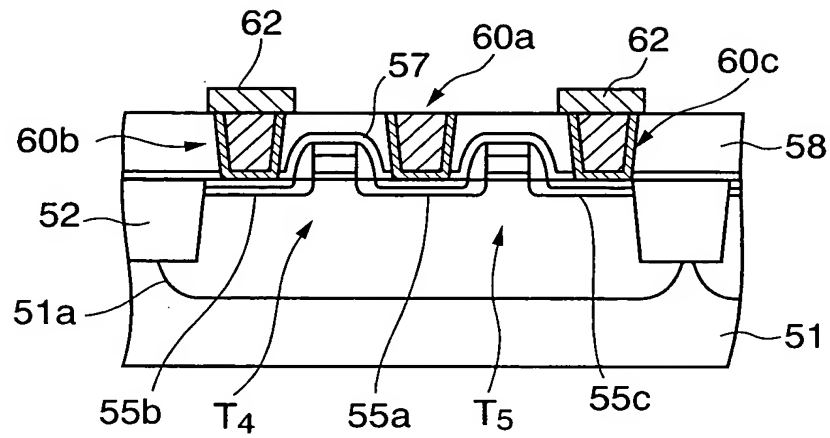
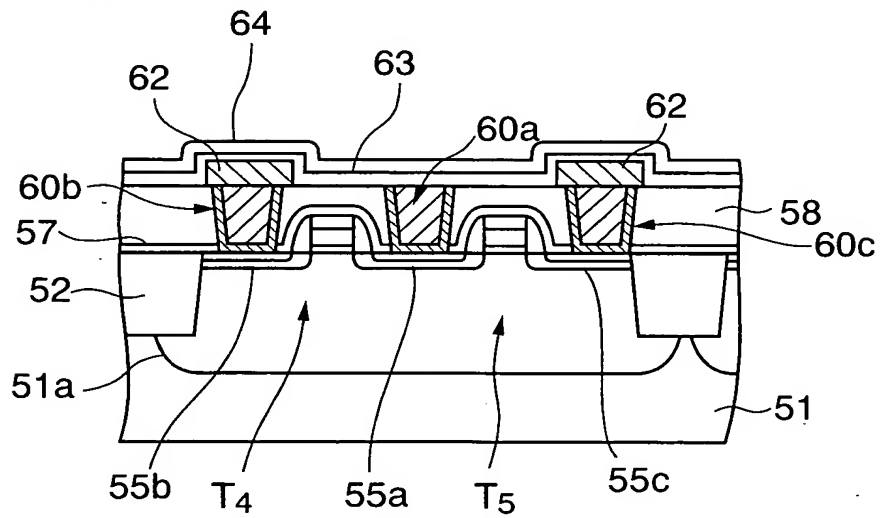
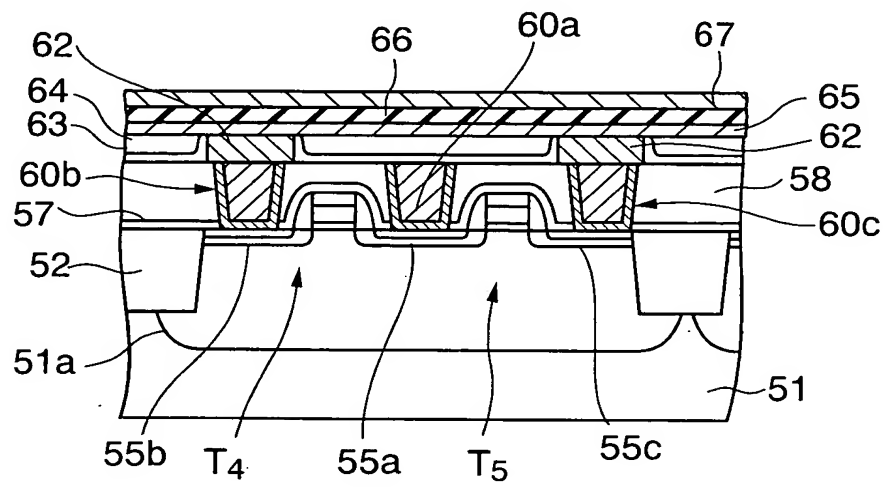


FIG. 20F





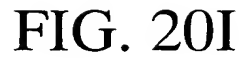




FIG. 20K

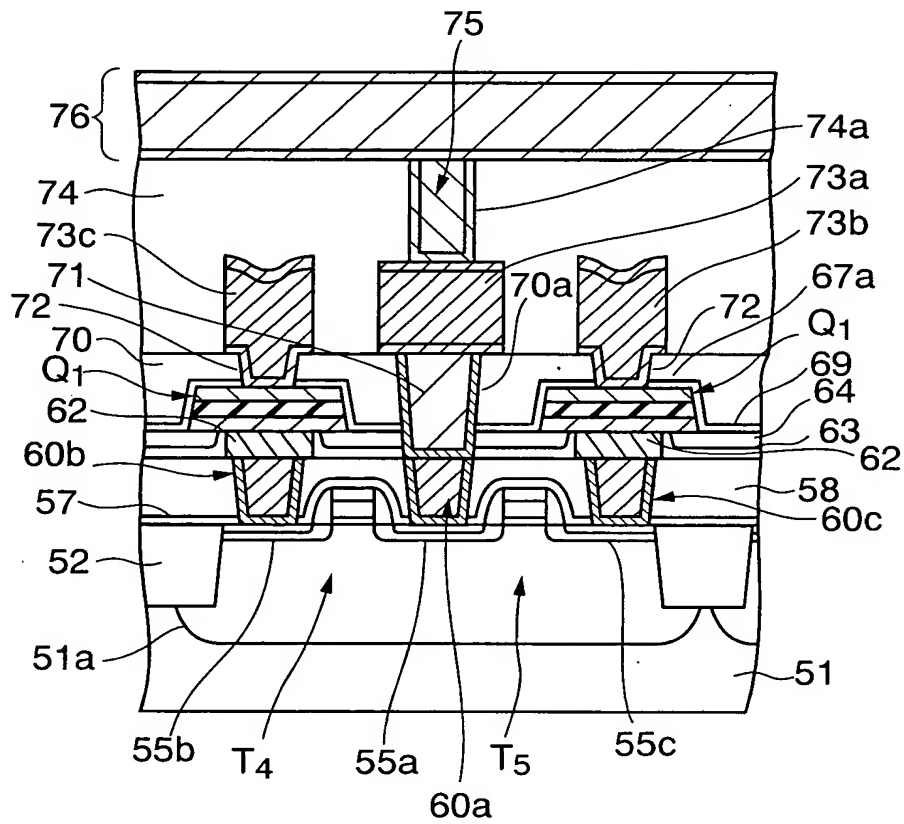


FIG. 21A

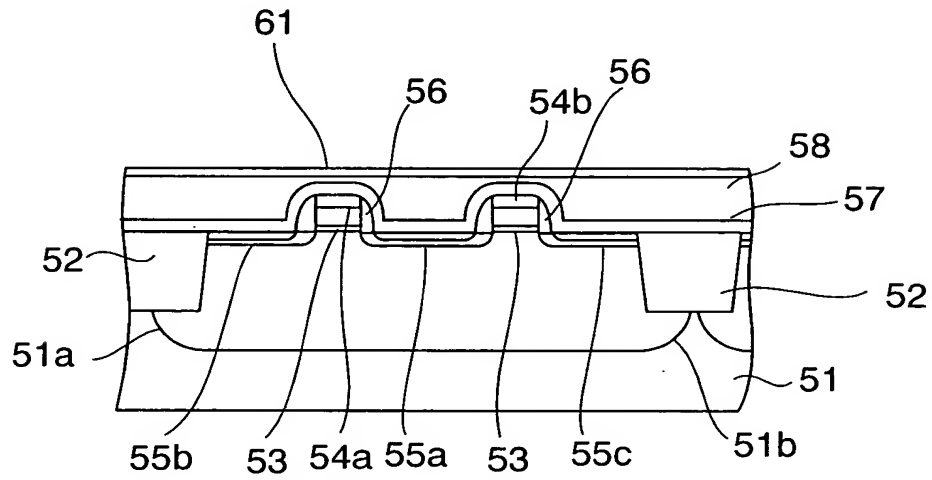


FIG. 21B

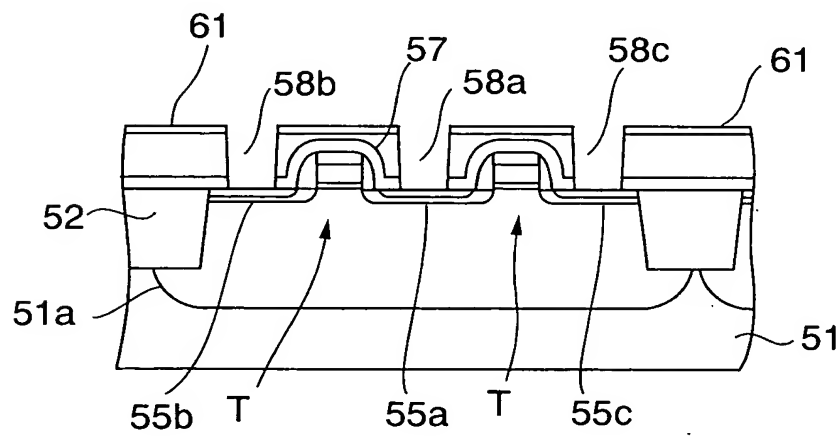


FIG. 21C

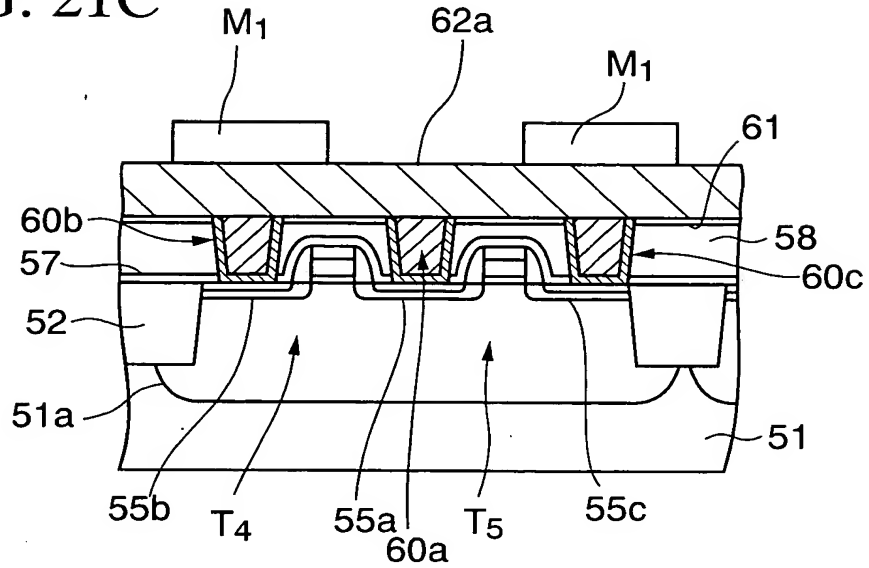


FIG. 21D

